

material is very desirable." But Miller & Standley cite the name of this variety in the synonymy of their *Nymphaea americana* (*Nymphoz. variegatus*) and in the synonymy of *Nymphaea rubrodisca* say: "*Nuphar advena minus* Wats. & Coult. in A. Gray, Man. ed. 6, 56. 1889, not Morong." Nevertheless, they correctly cite under *Nymphaea rubrodisca* the Gray material from Smith's Pond, Herkimer Co. It should be obvious, since this material was the sole basis of Morong's *Nuphar advena*, var. (?) *minor*, that his variety is correctly referred to *Nymphozanthus rubrodiscus*.

NYMPHOZ. **affinis** (Harz), n. comb. *Nuphar affine* Harz, Bot. Centralb. liii. 224 (1893). *Nymphaea affinis* (Harz) Hayek, Fl. Steierm. i. 437 (1908). *Nymphaea lutea*, var. *affinis* (Harz) Schuster, Bull. Herb. Boiss. sér. 2, viii. 69 (1908).— Europe.

NYMPHOZ. **juranus** (Magnin), n. comb. *Nuphar juranum* Magnin, Ann. Soc. Bot. Lyon, xix. 1893-94, Compt. Rend. 5 (1894).— Europe.

NYMPHOZ. **orbiculatus** (Small), n. comb. *Nymphaea orbiculata* Small, Bull. Torr. Bot. Cl. xxiii. 128 (1896).— North America.

NYMPHOZ. **centricavatus** (Schuster), n. comb. *Nuphar centricavatum* Schuster, Allgem. Bot. Zeitschr. xi. 145 (1905).— Europe.

NYMPHOZ. **fluviatilis** (Harper), n. comb. *Nymphaea fluviatilis* Harper, Bull. Torr. Bot. Cl. xxxiii. 234 (1906).— North America.

NYMPHOZ. **bombycinus** (Miller & Standley), n. comb. *Nymphaea bombycina* Miller & Standley, Contrib. U. S. Nat. Herb. xvi. 102, t. 42 F and 45 B (1912).— North America.

GRAY HERBARIUM.

DEAM'S TREES OF INDIANA.¹— When the first edition of the report of the Indiana State Board of Forestry for 1911 was issued, the Board had the foresight to plate that part of it relating to the trees of Indiana. Since the original edition of 10,000 copies is now exhausted, it has been possible for Mr. Deam to publish a revision of his excellent report, with numerous corrections and additional notes, largely based on the results of his own thorough study of the Indiana flora. Probably no American botanist covers more of his chosen field in the course of one season than Mr. Deam. His automobile, fitted up as residence and laboratory, takes him to every corner of the State, and enables him to keep his large private herbarium fully representative of the State flora. His appointment as State Forester has given him especial opportunity to prosecute his studies in what has always been his

¹The Trees of Indiana. By Chas. C. Deam. Bulletin No. 3, State Board of Forestry of Indiana. Indianapolis, March, 1919. p. 299.

favorite group. The present revision is an admirable example of popular treatment which does not sacrifice essential scientific accuracy. In all, 125 species are described, representing 49 genera in 28 families. The term "tree" is interpreted as including all woody plants that usually attain a diameter of 10–15 cm. — an arbitrary division that will not always prove satisfactory, since *Hamamelis virginiana*, *Euonymus atropurpureus* and *Kalmia latifolia* would seem to have at least as much right to be represented as *Ilex decidua* or *Cornus alternifolia*. *Crataegus* heads the list with 18 species (as might have been expected when it is explained that the genus was revised for this work by Eggleston!) and *Quercus* is a close second with 17. No less than 15 species which have been referred to Indiana are rejected as unconfirmed. Confirmation of included species is made by simple citation of collector and county of collection, without herbarium numbers, dates, or place of deposit. Each species is given a simple and untechnical description, followed by a discussion of its distribution, economic uses, and horticultural value; and each is illustrated by a careful drawing, showing a leafy branch with fruit or flowers, or both together. The solitary photograph of *Fraxinus Michauxii* makes us wish that the general habit of other species might have been illustrated in the same way. Two valuable tables are added, one showing the specific gravity of the wood of each species (ranging from 0.8372 for *Hicoria ovata* to 0.3164 for *Thuja occidentalis*), and the other giving measurements of 49 species, showing *Platanus occidentalis* ranking first in circumference (maximum 48 ft.) and *Liriodendron Tulipifera* in height (190 ft.). A map of the State is added to make the distribution more clear. The key to the families is constructed without regard to floral characters, and is based primarily on the leaves, so that all natural relationships are lost to view, as in Dr. Mosher's recent study of the Grasses of Illinois. Doubtless the popular appeal of these manuals is intensified by these unscientific keys, but it is an open question whether systematic accuracy has not been sacrificed to ease of determination.

The author makes a praiseworthy attempt to attach definite meanings to the terms ordinarily used to express degree of frequency, which have been sadly lacking in scientific precision. He suggests the following scale: "Very common," more than 25 trees to the acre; "common," 5–25 trees to the acre; "frequent," 1–5 trees to the acre; "infrequent," 1 tree to 2–10 acres; "rare," 1 tree to every 11–100 acres; "very rare," 1 tree to more than 100 acres; "local," when the distribution is circumscribed or in spots. While this is of course wholly arbitrary, it is at least a step in the right direction.

The nomenclature is said by the author to conform "to that of the United States Forest Service", which means that the provinciality of the so-called "American" Code is unfortunately perpetuated. Accordingly, we are treated to such absurdities as *Catalpa Catalpa* and *Sassafras Sassafras*, while substitutions such as *Hicoria* for *Carya*

and *Forestiera* for *Adelia* are maintained. Some "splitting" of families not in accordance with Gray's Manual is observed, such as the separation of Ulmaceae and Moraceae from Urticaceae, Malaceae and Amygdalaceae from Rosaceae, and Caesalpinaceae from Leguminosae. *Liquidambar* is placed in Altingiaceae, and *Aesculus* in Aesculaceae. *Malus* is separated from *Pyrus*, and *Padus* from *Prunus*. The genus *Cynoxylon* is revived for *Cornus florida*.

Betula papyrifera Marsh. is recognized as of specific rank, instead of being treated as a variety of *B. alba*. *Celtis pumila* (Muhl.) Pursh seems hardly worth specific rank. Michaux's *Acer nigrum*, reduced by Britton to a variety of *A. saccharum*, is restored to the rank of a species. *Fraxinus Michauxii* Britt., although no synonymy is cited, seems to replace *F. profunda* Bush. Eggleston's treatment of *Crataegus* shows several departures from the views set forth in his exposition of this genus in the last edition of Gray's Manual, and makes us wonder if this much-tortured group is ever going to return to stable conditions. *C. pausiaca* Ashe is replaced by *C. cuneiformis* (Marsh.) Eggleston; *C. macracantha* Lodd. var. *succulenta* (Schrad.) Eggleston is raised to specific rank; *C. deltoidea* Ashe is replaced by *C. rugosa* Ashe; *C. coccinea* L. var. *oligandra* Torr. & Gr. becomes *C. Gattingeri* Ashe; *C. coccinea* L. seems to be regarded as identical with *C. pedicellata* Sarg., and we are left in doubt as to what name should now be given to the *C. coccinea* of the Manual; and two species not mentioned in the Manual, *C. neo-fluvialis* Ashe and *C. Calpodendron* (Ehrh.) Medic., make their appearance.

A few errors in the citation of authors are noted. *Ostrya virginiana* (Mill.) K. Koch is cited as a synonym of *O. virginiana* (Mill.) Willd.; but Willdenow's name for the species seems to have been *virginica*. *Betula lutea* is ascribed to the elder rather than the younger Michaux, and in the same way *Cornus alternifolia* to the elder instead of the younger Linnaeus. *Alnus incana* is credited to Muenchhausen, perhaps from confusion of the abbreviation "Muench." with the name Moench. *Quercus palustris* is credited to DuRoi instead of Muenchhausen. *Toxylon pomiferum* was never given valid publication by Rafinesque, and the adherents of the "American" Code would if consistent have to use the name *Ioxylon*. The accent of scientific names is indicated by the use of grave and acute accents, as in Gray's Manual; but the following names of genera: *Liriodendron*, *Robinia*, *Aesculus*, *Tilia*, *Nyssa*, *Diospyros*; and of species: *lucida* (p. 39), *heterophylla* (pp. 47, 242), *ovata* (p. 62), *fulva* (p. 137), *velutina* (p. 127), *Michauxii* (p. 259), remain unmarked. An attempt has been made to indicate the etymology of generic names; but out of 49 genera only 22 are so explained, and some of these derivations are decidedly suspicious. The apparent relation between *Populus* and the Latin *populus*, the common people, is wholly deceptive, as also between *Acer* and *acer*, sharp. The attempt to show a "Celtic" origin for such classical Latin words as *Salix*, *Quercus*, *Carpinus*, *Betula* and *Alnus* seems to be

based more on unsupported theory than demonstrated fact. *Ostrya* is said to be "from the Greek ostreon, a scale or shell, in allusion to the fruit"; but ὄστρεον means oyster, and the Greek word for the hornbeam is ὄστρῦα. *Morus* is "from the Greek morea, the mulberry." The two are probably cognate, but neither one is "from" the other. *Viburnum* is said to be "from the Latin, meaning the wayfaring" [sic]. The origin is much in doubt, but the derivation from *viere*, to plait, seems a possibility. The spelling Simaroubaceae hardly seems in accord with the best usage. *Larix laricina* appears as "laricia" in the title to the plate on p. 27.

On the whole, the book is unusually free from typographical errors, and presents an attractive appearance. It will be welcomed by every lover of our native trees, and could be used to great advantage as a text-book in the schools. Mr. Deam has rendered a distinct service to dendrology by reissuing his admirable bulletin; and the data which he has painstakingly gathered will become more and more valuable as the process of deforestation of our native woodlands goes on.—
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FIELD MEETING OF THE VERMONT BOTANICAL CLUB.—The Vermont Botanical Club held its annual field meeting this year at North Hero on Lake Champlain, August 5-6, conjointly with the Vermont Bird Club. Thirty members were present, which is a very good attendance.

On the 5th trips were made to Pelot's Bay and to a smaller bay opening out of it, both being rich in water-weeds of various sorts, such as Potamogetons, Myriophyllums, etc. Here were found *Potamogeton heterophyllus*, *P. zosterifolius*, *P. dimorphus*, *P. Richardsonii*, *P. perfoliatus*, *Myriophyllum spicatum*, *M. alterniflorum*, and the stiff White Water Crowfoot, *Ranunculus circinatus*. On the muddy shores were several species of sedges, *Scirpus validus*, *S. heterochaetus*, and *S. occidentalis* being among the number.

The morning of the 6th was rainy, but in the afternoon a trip was made to "The Gut," as the passage between North and South Hero Islands is called. The Moonseed, *Menispermum canadense*, and the Sanicle, *Sanicula trifoliata*, among a host of other plants, were growing in the woods bordering the Lake, and on its muddy shore were found the Water Pimpernel, *Ilysanthes dubia*, the Creeping *Eragrostis*, *E. hypnoides*, the Arrowheads, *Sagittaria arifolia* and *S. graminea*, and best of all the Waterwort, *Elatine americana*, new to the state, and the little *Littorella uniflora*, for which this is the fourth station in the state. These were certainly good finds for one afternoon.